KIRILLOV, Nikolay Ivanovich, doktor tekhn. nauk, prof.; FOMIN, A.A., red.

[Photography problems] Problemy fotografii. Moskva, Iskusstvo, 1965. 221 p. (MIRA 18:8)

KUDRYASHOV, Nikolay Nikolayevich. Prinimali uchastiye: VENZHER, N.Ya.; PANFILOV, N.D.; PERTSIK, A.G.; FOMIN, A.A., red.

[Handbook for the amateur motion-picture photographer] Spravochnik kinoliubitelia. Moskva, Iskusstvo, 1964. 451 p. (MIRA 18:2)

LIKHTTSINDER, Markus Aronovich; FOMIN, A.A., red.

[Positive process in color photography] Pozitivnyi protsess v tsvetnoi fotografii. Moskva, Iskusstvo, 1964. 95 p. (MIRA 17:12)

DONSKOY, A.V., prof.; FOMIN, A.A., inzh.

Electrical parameters of electromagnetic systems during the induction heating of a sphere. Elektrichestvo no.4:68-70 Ap '65. (MIRA 18:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.

ACCESSION NR: AP5007065 S/0120/65/000/00[illegible]

AUTHOR: Golub, B. S.; Fomin, A. A.

TITLE: Matching device for extracting pulses from a multiplier phototube

SOURCE: Pribory i tekhnika eksperimenta, no. [illegible] 1965, [illegible]

TOPIC TAGS: multiplier phototube, photomultiplier

ABSTRACT: The development of a new matching device consisting of three [illegible] is reported. The device has a high [illegible] and a low (under 10 ohms) output impedance [illegible] under [illegible] without distortion negative [illegible] integration [illegible] gamma [illegible] 1 figure and 4 formulas.

ASSOCIATION: none

SUBMITTED: 10Jan64 ENCL: 00 SUB CODE: EC

NO REF SOV: 002 OTHER: 001

Card 1/1

TOLMACHEV, Vsevolod Borisovich; FOMIN, A.A., red.

[Technology of the taking of television films] Tekhnologiia s"emki televizionnykh fil'mov. Moskva, Iskusstvo, 1965. 165 p. (MIRA 18:12)

FOMIN, A.B. [Fomin, O.B.]; KUTS, V.P.; ORLOVA, L.A.

Characteristics of the gallium accumulation in the rocks of the October and Yelanchikskiy Massifs. Dop. AN URSR no.1:78-80 '65.
(MIRA 18:2)

1. Institut geologicheskikh nauk AN UkrSSR. Predstavleno akademikom AN UkrSSR N.P. Semenenko [Semenenko, M.P.].

KUTS, V.P.; FOMIN, A.B. [Fomin, O.B.]; TSYBKIN, I.P.

Some characteristics of the behavior of lithium and rubidium in sedimentary rocks of the Ukraine. Dop. AN URSR no.2: 235-238 '65. (MIRA 18:2)

1. Institut geologicheskikh nauk AN UkrSSR.

FOMIN, A.F., glavnyy konstruktor.

[T-107 heavy single-bucket loader] Tiazhelyi odnokovshevyi pogruzchik T-107. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry [Uralo-sibirskoe otd-nie] 1953. 71 p. (MLRA 6:7)

1. Sverdlovskiy zavod "Glavekskavator." (Excavating machinery)

FOMIN,A.F., inzhener

The improvement of coating and labeling machines. Der.prom.4 no.8:25 Ag '55. (MLRA 8:10)

1. Spichechnaya fabrika "Gigant"
(Match industry--Equipment and supplies)

FOMIN, A.F.

DIDENKO, V.Ye.; TSAREV, M.N.; DMITRIYEV, M.M.; LEYTES, V.A.; OBUKHOVSKIY, Ya.M.; IVANOV, Ye.B.; CHERTOK, V.T.; URSALENKO, R.N.; KRIGER, I.Ya.; PINCHUK, A.K.; ANTONENKO, N.Z.; SMUL'SON, A.S.; VASIL'CHENKO, S.I.; DRASHKO, A.M.; RAYEVSKIY, B.N.; KUCHIRYAVENKO, D.N.; SAVCHUK, A.I.; ZHURAVLEVA, L.I.; BAUTIN, I.G.; KHRIYENKO, V.Ya.; MOSENKO, N.K.; CHERBONENKO, G.P.; LISSOV, L.K.; MAMONTOV, V.V.; BELUKHA, A.A.; POYDUN, V.F.; VOLODARSKIY, M.B.; KAL'CHENKO, G.D.; LEVCHENKO, V.M.; BASHKIROV, A.A.; VOROB'YEV, M.F.; IL'CHENKO, L.I.; PODSHIVALOV, F.S.; MOGIL'NYY, P.P.; LEVI, A.R.; VASLYAYEV, G.P.; DURNEV, V.V.; OSYPA, S.S.; SAMOFALOV, G.N.; FOMIN, A.F.; LESHCHINA, A.I.; FANKEL'BERG, G.Ye.; KHODANKOV, A.T.; MAKARENKO, I.S.; KARPOVA, K.K.; VASILENKO, I.M.; VOLOSHCHUK, A.S.; SHELKOV, A.K.; FILIPPOV, B.S.; TYUTYUNNIKOV, G.N.; DOLINSKIY, M.Yu.; NIKITINA, P.P.; MEDVEDEV, S.M.; TSOGLIN, M.E.; LERNER, R.Z.; BOGACHEV, V.I.

Mihail IAkovlevich Moroz; obituary. Koks i khim.no.3:64 '56.(MLRA 9:8)
(Moroz, Mikhail IAkovlevich, 1902?-1956)

FOMIN, A.F., inzhener.

Box-turning mechanism on a box-sorting machine. Der.prom. 5 no.3:24 Mr '56. (MLRA 9:7)

1.Spichechnaya fabrika "Gigant".
(Match industry)

FOMIN, Aleksey Fedorovich; PETUKHOV, P.Z., doktor tekhn.nauk, retsenzent; DUGINA, N.A., tekhn.red.

[The T-107 bucket loader] Odnokovshovyi pogruzchik T-107. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 143 p. (MIRA 12:12)

(Earthmoving machinery)

FOMIN, A.F. (Moskva)

Potential interference of digital radio telemetry systems with an additional subcarrier. Avtom. i telem. 23 no.7:926-931 Jl '62. (MIRA 15:9)

(Telemetering)

29257
S/103/61/022/010/016/018
D274/D301

9,8300

AUTHOR: Fomin, A. F. (Moscow)

TITLE: Potential and actual noise-stability of multi-channel telemetering systems with time-division multiplexing under weak random noise

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 10, 1961, 1405-1415

TEXT: Various types of multichannel systems are compared with respect to potential and actual noise-stability. As a criterion for potential noise-stability, the value of the mean-square error

$$\delta_p^2 = \frac{\sigma^2}{8\int_{-T/2}^{T/2}\left[\frac{\partial A(\lambda, t)}{\partial \lambda}\right]} = \frac{\sigma^2}{2I} \qquad (1)$$

Card 1/5

Potential and actual...

is taken (under weak noises). For noise-stability of actual receivers, the mean-square error

$$\delta_r^2 = \frac{1}{8}\left(\frac{U_n}{U_s}\right)^2_{out} \qquad (2)$$

is taken as a criterion. Below, the ratios $(U_s/U_n)_{out}$ for various systems are adopted. In determining the actual noise-stability, it is assumed that the commutator of the receiver is rigidly synchronized with that of the transmitter and that low-frequency filters are used at the output of each channel, with cut-off frequency $\Delta F = F_{max}$. The following notations are used: $A(\lambda, t)$ --the signal as a function of the measured parameter and of time, F_i--the pulse frequency of the parameters, F_c--the bandwidth of the video-channel, f_d--the maximum deviation of the carrier frequency M--the amplitude-modulation factor of the carrier, N--the number of

Card 2/5

Potential and actual...

channels, U_e --the effective voltage of the unmodulated carrier. (1) System AM-AM. Potential noise-stability. With M = 1, the formula

$$\delta_p^2 = \frac{\sigma^2}{8U_e^2 T} N \qquad (4)$$

is obtained. The ratio of error of actual to ideal receiver is

$$\Pi_o^2 = \frac{\delta_r^2}{\delta_p^2} = \frac{\Delta F}{F_{max}} \qquad (7)$$

Hence, an actual receiver of system AM-AM ensures potential noise-stability only if the demodulation is effected by means of an ideal low-frequency filter (LFF) with $\Delta F = F_{max}$. (2) System AM-FM. By Kotel'nikov's formula

Card 3/5

Potential and actual...

$$\Pi_o^2 = \frac{\delta_r^2}{\delta_p^2} = \frac{2}{3}\,\frac{F_c \Delta F T^2}{N\alpha_B} = \frac{1}{3}\,\frac{F_c \Delta F}{F_x}\,\tau_x \qquad (11)$$

It is noted that actual noise-stability by Nichols-Rauch's formula exceeds potential stability according to Kotel'nikov, which should not happen. (3) System AM-PM. It is found that with appropriate choice of video-band and ideal LFF, the actual noise-stability reaches the potential one. Further, the systems with modulation: PM-AM, PM-FM, NM-AM, NM-FM and NM-PM are investigated. It is concluded that a comparison of the various types of systems shows that under certain conditions the actual noise-stability of nearly all these systems approaches the potential noise-stability. For the systems AM and NM, one of the necessary conditions is the use of a low-frequency filter with cutoff frequency $\Delta F = F_{max}$. The second condition is the optimum choice of the video-channel bandpass. For PM-AM systems, the actual noise-stability is lower than the potential

Card 4/5

Potential and actual...

by a factor of $\sqrt{2}$ approximately, even if the above conditions are complied with. As for actual filters, ΔF is always larger than F_{max}, the actual noise-stability will always be somewhat lower than the potential. It is noted that in systems with secondary frequency modulation (AM-FM, NM-FM), Eq. (1) gives an overestimate for δ_p. This may be due to the fact that, for all pulse-modulation systems, the intensity of the noise at the receiver output is uniform. There are 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: February 8, 1961

Card 5/5

9.3270
9.8300

31271
S/103/61/022/011/012/014
D271/D306

AUTHOR: Fomin, A. F. (Moscow)

TITLE: Potential and real interference stability, under weak fluctuation interference, of multi-channel radiotelemetry systems with frequency division

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 11, 1961, 1533-1542

TEXT: Radiotelemetry systems based on frequency division were analyzed in order to compare their potential and real interference stability. Kotel'nikov's method for evaluating the stability of transmission systems by the interference intensity at the output of an ideal receiver is used. For amplitude and phase modulation, the expression for the interference intensity at the output is

$$\sigma_e^2 = \frac{\sigma^2}{\left[\frac{\partial A(\lambda, t)}{\partial \lambda}\right]^2}$$

Card 1/5

Potential and real ...

where λ is the measured parameter, $A(\lambda,t)$ - the signal which is a function of time and of the parameter, σ - specific intensity of the fluctuation interference. When the bandwidth of i-th channel ΔF is equal to the maximum frequency of variations of the parameter which varies between -1 and +1, $\Delta F = F_{max}$, mean square error of measurement is

$$\delta_p^2 = \frac{\sigma^2}{\left[\frac{\partial A(\lambda,t)}{\partial \lambda}\right]^2} F_{max}$$

4

By substituting $F_{max} = \frac{1}{2T}$ the author obtains

$$\delta_p^2 = \frac{\sigma^2}{\left[2T \frac{\partial A(\lambda,t)}{\partial \lambda}\right]^2} = \frac{\sigma^2}{2I}$$

where

Card 2/5

Potential and real ...

$$I = \overline{T\, A'_{\lambda}(\lambda,t)} = \int_{-T/2}^{T/2} A'_{\lambda}(\lambda,t)dt$$

is the specific energy of oscillations. When integral modulation systems, e.g. fm are used, the expression for the interference intensity at the ideal receiver output is

$$\sigma_e^2 = \frac{o^2}{\left[\overline{\frac{\partial A(\lambda,t)}{\partial \Lambda}}\right]^2} \Omega^2_{max} \quad \text{where } \Lambda = \int \lambda(t)dt$$

The mean square error of measurement is in this case

Card 3/5

Potential and real ...

$$\delta_p^2 = \frac{\sigma^2}{2T\left[\frac{\partial A(\lambda, t)}{\partial \lambda}\right]^2} \quad \frac{\Omega^2_{max}}{3} \qquad (2)$$

For amplitude and phase modulation mean square error is independent of frequency, for integral modulation systems it is proportional to the frequency. To obtain the mean square error in a system with a real receiver, data of Nichols and Rauch are used; in this case the error is

$$\delta_p^2 = \frac{1}{8} \frac{U_n^2}{U_s^2}_{\text{output}}$$

where U_n is the interference and U_s - signal. The following double

Card 4/5

Potential and real ....

and single stage modulation systems are analyzed: AM - AM, FM - AM, PhM - AM, FM, PhM, AM - FM, FM - FM, PhM - FM, AM - PhM, FM - PhM, PhM - PhM. In each case the single equation is first written out, the mean square measurement error is derived by means of above expressions for ideal receiver, the expression for signal-to-noise ratio is written out for the output of a real receiver channel and from it the mean square error is obtained. In all cases, it is found, by comparing potential and real measurement errors, that real interference stability may be made equal to the potential stability if each channel is provided at its output with a filter, whose cut-off frequency is equal to the maximum frequency of the measured parameter. Real interference stability is always to some extent worse because the cut-off slope cannot be infinitely high. There are 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: M. H. Nichols, L. L. Rauch, Radiotelemetriya ("Radiotelemetry", in Russian translation), Izd-vo inostr. lit-ry, 1958.

SUBMITTED: February 23, 1961

Card 5/5

40127
S/108/62/017/008/002/005
D409/D301

9,3273
9,8300

AUTHOR: Fomin, A.F., Member of the Society (see Association)

TITLE: Potential and actual noise-stability of a multi-channel radiotelemetering system of type PDM-FM-FM in the case of weak fluctuation noise

PERIODICAL: Radiotekhnika, v. 17, no. 8, 1962, 10-14

TEXT: The potential noise-stability of a radiotelemetering system of type PDM-FM-FM, PDM-FM and FM-FM systems are compared with respect to potential noise-stability. The magnitude of the mean-square error at the receiver output is used as the criterion of potential and actual noise-stability. In order to determine the mean-square error in each particular system, the values of the signal-to-noise ratio (U_s/U_n) at the receiver output are used (taken from Nichols and Rauch: "Radiotelemetriya" IIL, 1953, - Russian translation). First, potential noise-stability of a PDM-FM-FM system is considered. Formulas are derived for the mean square error δ^2. Further, actual noise-stability is considered. In this case

Card 1/3 .

Potential and actual noise-stability ...

$$\delta^2_{act} = \frac{16\,\sigma^2\Omega_i^2 N^2 \alpha_t^2 F_s F_o F_{max}}{U_c^2\,\omega_d^2\,\Omega_d^2} \qquad (10)$$

where σ is the specific noise-voltage, Ω_i the angular subcarrier-frequency of the i-th channel, N the number of channels, α_t a time-division multiplexing coefficient, F_s the videoband-width of the PDM-channel, F_{max} the bandwidth of an ideal low-frequency filter, and ω_d the maximum angular deviation of the carrier. A comparison of PDM-FM-FM and PDM-FM and FM-FM systems with respect to potential noise-stability, led to the following conclusions: The PDM-FM-FM system is much inferior to the PDM-FM system; the PDM-FM-FM system with additional subcarrier is also inferior to the FM-FM system. Thus, a radiotelemetering system with time-division multiplexing of channels (and additional subcarrier) of type PDM-FM-FM presents no advantages whatsoever as to potential noise-stability, in comparison with PDM-FM and FM-FM systems.

4

Card 2/3

Potential and actual noise-stability ... S/108/62/017/008/002/005
D409/D301

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A.S. Popov)

SUBMITTED: June 19, 1961

4

Card 3/3

ACC NR: AP6012337 EWT(1) TG

SOURCE CODE: UR/0108/66/021/004/0001/0009

AUTHOR: Fomin, A. F. (Active member)

ORG: Scientific-Technical Society of Radio Engineering and Electric Communication im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Estimate of accuracy and reliability of information transfer using analog broadband modulation systems under fluctuating noise conditions [Reported in May 1963 at the All-Union Scientific Session of NTOTIE devoted to the Day of Radio]

SOURCE: Radiotekhnika, v. 21, no. 4, 1966, 1-9

TOPIC TAGS: information processing, analog system, broadband communication, error minimization, signal to noise ratio, probability, interference immunity

ABSTRACT: The author points out that in addition to minimizing the errors of a communications system it is also necessary to ensure that the obtained data have a certain reliability, which is defined as the immunity of the system to the appearance of rare but large deviations which can lead to large errors when the signal/noise ratio is large. It is shown that the general ideal receiver should consist of an optimal signal detection device and an optimal device for estimating the information parameters of the signal. The first of these devices ensures observation and recognition of the signal peak of the a posteriori probability with minimum probability of anomalous error, and the second device ensures determination of the position of the signal peak relative to the rms error. Accordingly, an estimate of the interference

SUB CODE:

UDC: 621.396.626

Card 1/2

Card 2/2 BK

L 37664-66 EWT(d)/FSS-2 GD

ACC NR: AT6012345 SOURCE CODE: UR/0000/66/000/000/0026/0049

AUTHOR: Kupershmidt, Ya. A.; Fomin, A. F.; Shastova, G. A.

ORG: none

TITLE: Optimal methods of information transmission in tele-systems

SOURCE: Nauchno-tekhnicheskaya konferentsiya po sredstvam promyshlennoy telemekhaniki. Moscow, 1963. Promyshlennaya telemekhanika. (Industrial telemechanics); materialy konferentsii. Moscow, Izd-vo Energiya, 1966, 26-49

TOPIC TAGS: remote control system, telemetry system, supervisory control system

ABSTRACT: A purely theoretical examination is presented of the following points: noise rejection and efficiency of transmission of discrete and continuous information; "trading" frequency band for signal power; comparison of various codes and modulation methods; selection of the optimal clock interrogation frequency in multi-channel time-division telemetry systems. It is found that: (1) Error-correcting codes and high-energy-per-element codes permit enhancing the noise rejection by making the signal band wider; the band-for-energy "trading" conditions are more

Card 1/2

L 37664-66

ACC NR: AT6012345

favorable: (a) for error-correcting codes when secondary FM and PAM and high traffic are used and (b) for high-energy codes when a secondary AM is used; (2) The above codes and a wider frequency band ensure better noise rejection than that obtainable with PCM-AM and PCM-FM systems; (3) The FM, PAM-FM, PPhM, PPhM-AM systems have better noise rejection than binary-code digital systems (such as PCM-AM or PCM-FM); the noise rejection of analog methods with optimal band is roughly equivalent to the noise rejection of discrete methods with orthogonal signals; (4) An optimal period of interrogation exists in multichannel time-division telemetry systems; this period ensures minimum error due to time and level quantization of noise and to other factors. PAM-pulse-amplitude modulation; PCM-pulse-code modulation; PPhM-pulse-phase modulation. Orig. art. has: 7 figures, 35 formulas, and 3 tables.

SUB CODE: 09 / SUBM DATE: 08Jan66 / ORIG REF: 010

2/2 ns

L 06115-67 EWT(d)/ESS-2
ACC NR: AP6023859 SOURCE CODE: UR/0108/66/021/007/0052/0059

AUTHOR: Fomin, A. F. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Threshold signals and optimal modulation parameters in analog methods of information transmission under ideal receiving conditions [Reported at the All-Union NTORiE Conference, May 1963]

SOURCE: Radiotekhnika, v. 21, no. 7, 1966, 52-59

TOPIC TAGS: radar, information transmission, signal modulation, signal noise separation

ABSTRACT: This is a continuation of an earlier author's work (Radiotekhnika, v. 21, no. 4, 1966). The statistical theory of communication is used to evaluate the threshold (minimal) signal-to-noise ratio (SNR) required for ensuring a specified quality of information received from a transmission system. The normal mean-square error δ serves as a criterion of accuracy of transmission; the probability of occurrence of anomalous errors P_{an} is used as a criterion of fidelity. Each system of modulation can be described by two transcendent equations that connect δ, P_{an} and α, M; here, $\alpha = Q^2/\sigma^2$; Q^2 is the signal energy, σ^2 is the specific noise intensity; M is the number of essential degrees of freedom of the information-carrying

Card 1/2 UDC: 621.396.626

L 06115-67

ACC NR: AP6023859

signal per one independent information reading. One of the equation is set up by means of the theory of weak noise (estimator theory), the other, by the theory of strong noise (detection theory). One of these equations was solved on a digital computer for PPhM-AM and PAM-FM signals with unknown initial phases; it is found that M_{opt} is largely determined by δ and only slightly depends on P_{an}. It is also found that analog PAM-FM systems require the lowest SNR which is also true of PPhM-AM systems transmitting telemetering pulses only. Digital binary systems (including PCM-FM and PCM-PhM) are inferior to the analog systems in their noise-rejection characteristics but require a narrower frequency band. Orig. art. has: 6 figures and 20 formulas.

SUB CODE: 17, 09 / SUBM DATE: 24Mar64 / ORIG REF: 003 / OTH REF: 001

Card 2/2

ACC NR: AT6022368 SOURCE CODE: UR/0000/66/000/000/0058/0065

AUTHOR: Fomin, A. F.

ORG: none

TITLE: A-posteriori density of distribution of probabilities of errors at the output of an ideal receiver of analog signals

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya teorii informatsii. Doklady. Moscow, 1966, 58-65

TOPIC TAGS: signal reception, error prediction, signal noise separation

ABSTRACT: On the basis of well-known F. M. Woodworth works and a later H. Akima article (IEEE Trans., 1963, SET-9, no. 4), this expression for the total (mean) density of distribution of message probability is derived: $P_{ac}(\lambda)=\frac{e^{\alpha^2(2R_\lambda+1)}}{\int_{-1}^{+1} e^{\alpha^2(2R_\lambda+1)}d\lambda}$, where α - ratio of signal energy Q^2 to specific noise intensity σ^2, R_λ - normalized

Card 1/2

ACC NR: AT6022368

coefficient of correlation of signal, λ - message. The above total density is independent of the value of parameter λ_0 being transmitted, is solely a function of the absolute value of $\varepsilon = \lambda - \lambda_0$, and has a maximum at $\lambda = \lambda_0$. Hence, the most probable value λ_p coincides with the transmitted value λ_0. With the above algorithm, the total density of message probability distribution will also serve as the total density of error probability distribution: $P_{\alpha c}(\lambda) = P_{\alpha c}(\varepsilon)$. Formulas for the coefficients of correlation for FM, PPhM, PAM-FM and PPhM-AM systems are tabulated. Curves of total mean-square error vs. α, for a PAM-FM system, show that the above reception method possesses a much higher noise-rejection capacity than other known methods. Orig. art. has: 1 figure, 21 formulas, and 1 table.

SUB CODE: 12, 09 / SUBM DATE: 28Apr66 / ORIG REF: 006 / OTH REF: 001

Card 2/2

ACCESSION NR: AT4037709 S/2865/64/003/000/0396/0400

AUTHOR: Grishayenkov, B. G.; Zablotskiy, L. L.; Ostapenko, O. F.; Semenov, Yu. M.; Fomin, A. G.

TITLE: Methods of obtaining oxygen by electrolysis of water under weightless conditions

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy* kosmicheskoy biologii, v. 3, 1964, 396-400

TOPIC TAGS: electrolysis, space flight, weightlessness, water, oxygen, air regeneration, life support, closed ecological system, manned space flight

ABSTRACT: For space flights of more than one month duration, it seems promising to develop systems of air regeneration in the space vehicle cabin based on re-utilization of human body wastes. This would minimize the amount of material to be stored aboard the ship. Electrolysis of the water formed by vital activity would be utilized as a source of oxygen for such a system. Electrolysis under weightless conditions requires the removal of the gases(oxygen and hydrogen) formed and the maintenance of continuous contact between the electrodes and the

Card 1/2

ACCESSION NR: AT4037709

bulk of the electrolyte. This can be accomplished with the aid of centrifugal devices, or by using electrodes, diaphragms, and electrolytes with special chemical and physical properties. The latter method requires equipment which promises to be more economical, portable, simple, and reliable. The electrolysis of water may very soon become the basic method of supplying oxygen for manned space flights.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: PH, LS

NO REF SOV: 002 OTHER: 009

Card 2/2

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.; BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.; VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.; GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.; YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV, T.A.; KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN, G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I ; KUDROVA, R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV, D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.; ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV, M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV, A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV, I.T.; SAVINICH, F.K.; STMPURA, S.F.; VOSKRESENSKIY, O.G.; GAZENKO, O.G., SISAKYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet astronauts' flights on "Vostok" ships; scientific results of medical and biological research conducted during the second group space flight] Vtoroi gruppovoi kosmicheskii polet i nekotorye itogi poletov sovetskikh kosmonavtov na korabliakh "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta. Moskva, Nauka, 1965. 277 p. (MIRA 18:6)

FOMIN, A. G., Eng.

"Use of Hydraulic Drive in New Machines" p. 399-408 in book
Increasing the Quality and Efficiency of Machinery, Moscow, Mashgiz, 1957,
626pp.

AUTHOR: Fomin, A.G., Engineer SOV/135-58-12-6/20

TITLE: Experience in Electric Slag Welding of "1Kh18N9T" Grade Steel (Opyt elektroshlakovoy svarki stali marki 1Kh18N9T)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 12, pp 21-23 (USSR)

ABSTRACT: Workers of the plant together with a team from the Institute of Electric Welding imeni Ye.O. Paton, developed a method of electric-slag welding of "1Kh18N9T" steel forged flanges with strip electrodes. A detailed description of the tests performed is given and the following conclusions are made: "1Kh18N9T"-grade steel has good weldable qualities when the method described is used. The technology developed for electric slag welding of flanges of 120 - 200 mm width and 160 - 230 mm height ensures high quality of the seams and of the weld joints which meet the requirements for the flanges of nitrogen and oxygen regenerators (i.e. over 2 kg/sq cm

Card 1/2

Experience in Electric Slag Welding of "1Kh18N9T" Grade Steel

toughness at -180° C).
There are 7 photos, 2 diagrams and 3 tables.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze
(Podol'sk Machinebuilding Plant imeni Ordzhonikidze)

SOV/135-59-4-8/18

25 (1)

AUTHOR: Fomin, A. G., Engineer

TITLE: Automatic Welding of Oil Apparatus of Double-Layer Steel (Avtomaticheskaya svarka nefteapparatov iz dvukhsloynoy stali)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 4, pp 30 - 32 (USSR)

ABSTRACT: A new method of double-layer steel plating (steel "st. 3" and "08Kh12") for oil apparatus by welding under flux with two wires, introduced at the author's plant, is described. The welding tractor "TS-17M" was redesigned for this purpose by the Institut elektrosvarki im. Ye. O. Patona (Electric Welding Institute imeni Ye. O. Paton) and provided with feed rollers and a new electrode holder (Fig. 6) for two 3 mm wires. The modernized tractor TS-17M-4 is shown in Fig. 8. The root bead of the outer weld could not be welded automatically because no flux pads were available, therefore it was done manually. The article includes the chemical composition of the standard wire "Sv-Kh25N13" ("GOST 2246-54") used for

Card 1/2

Automatic Welding of Oil Apparatus of Double-Layer Steel

automatic welding, the composition of the weld metal, obtained and the welding process parameters. The welded joints are of high quality, with tensile strength of 48 - 50 kg/mm^2, bend angle of 180°, and impact resistance of 14-16 kgm/cm^2. There are 3 drawings, 5 photographs and 4 tables.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze. (Podol'sk Machine Building Plant imeni Ordzhonikidze)

25(1) SOV/15-59-5-9/21

AUTHOR: Fomin, A. G., Engineer

TITLE: A Unit for the Mechanized Assembly of the Annular Junction of Boiler Shells

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 5, pp 24-25 (USSR)

ABSTRACT: This unit, shown schematically in Figure 4, was developed at the Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze (Podol'sk Machine-Building Plant imeni Ordzhonikidze) in order to mechanize the labor-consuming process of assembly of the annular junction of boiler shells. The device is described in some detail and the following performance data given: it is driven by an electric motor of 2.8 kw and 980 rpm switched up to a voltage grid of 65 volts. With it, one 6th grade fitter can assemble the body of a vessel from shells of 2400 mm diameter and a wall thickness of 14 mm in 0.8 of a norm hour. There are 3 diagrams and 2 photos.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze (Podol'sk Machine-Building Plant imeni Ordzhonikidze)

Card 1/1

SOV/117-59-6-23/33

AUTHOR: Fomin, A.G., Engineer

TITLE: Welder G.M. Antonov

PERIODICAL: Mashinostroitel', 1959, Nr 6, p 35 (USSR)

ABSTRACT: At the Podol'skiy mashinostroitel'nyy zavod imeni Ordzhonikidze (Podol'sk Machine Building Plant Imeni Ordzhonikidze), automatic welding under flux is extensively used. Welder Antonov, one of the best welders of the plant, uses this method. The article describes how he organizes his work. He has reduced the auxiliary time to a minimum and fulfills two or more production quotas. There is 1 photograph and 1 table.

Card 1/1

18(5),25(1) SOV/135-59-6-14/20

AUTHOR: Sologub, D. P. and Fomin, A. G., Engineers

TITLE: Machine Tool for Oxygen-cutting Pipe

PERIODICAL: Svarochnoye Proizvodstvo, 1959, Nr 6, p 41 (USSR)

ABSTRACT: A new type of machine-tool is described for tubes with a diameter of 100-500 mm which has been invented, constructed and introduced by the Machine-Building Plant imeni Ordzhonikidze, Podol'sk. The Plan of the work-bench is given in Figure 1. Figure 2 is a photograph of the work-bench. The authors state that the new work-bench introduced by this plant renders a possibility of mechanical cutting by a tube oxygen-cutting machine instead of manual cutting. In applying the new work-bench the working productivity is raised 2 to $2\frac{1}{2}$ times. there is 1 diagram and 1 photograph.

ASSOCIATION: Podol'skiy mashinostroitel'nyy zavod imeni Ordzhonikidze (Machine-Building Plant imeni Ordzhonikidze, Podol'sk)

Card 1/1

18(5), 25(1) SOV/125-59-10-11/16

AUTHOR: Fomin, A.G., Engineer

TITLE: An Experiment in Welding Petroleum Apparatus with Double-Layer Steel

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 10, pp 85-87 (USSR)

ABSTRACT: The article contains a brief account of an apparatus, manufactured at the Plant imeni Ordzhonikidze designed for the welding of double-layer steel, the main layer being St3 or 12MKh steel, and the non-corrosive layer 08Kh12 steel; in this process the possibility of the two steels mixing and the appearance of cracks are the main dangers. Fig 2 and Table 1 show the method of cutting the edges to be welded - V-shaped for sheeting of thickness 6, 8, 10, 12, 14 and 16mm, and X-shaped for larger dimensions; Fig 1 illustrates the sequence of the 3 stages in the welding process: 1) a multi-layer base is welded by means of TsM-7 electrodes (for St3 steel) or TsL-14 electrodes (12MKh steel); 2) the alloyed layer is then applied by an alloy electrode (Mark Z and O-8 or Z and O-7); 3) the final automatic welding of the main layer of St3 steel is carried out by means of Sv-08 or Sv-08A wire, in

Card 1/2

An Experiment in Welding Petroleum Apparatus with Double-Layer Steel

accordance with GOST 2246-54, and flux OSTs-45 or OSTs-45A, while the welding of the ring seams of petroleum apparatus is conducted by means of a V head produced by the TsNIITMASH. Data concerning the process is supplied in Table 2, and figures are given in the text for the welding of carbon steel and stainless steel. The mechanical properties are found to be thoroughly satisfactory, in particular the durability. There are 2 diagrams and 2 tables.

ASSOCIATION: Podol'skiy zavod imeni Ordzhonikidze (Podol'sk Factory imeni Ordzhonikidze)

SUBMITTED: October 1, 1958

L 40763-65 EWT(d)/EWA(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) Pf-4

ACCESSION NR: AP5012323 UR/0286/64/000/022/0008/0008

20
19
B

AUTHOR: Simonov, N. S.; Strakhal', V. A.; Rebrik, B. M.; Ostrovskiy, V. I.;

TITLE: Self-propelled unit for vibration drilling. Class 5, No. 166287

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1964, 8

TOPIC TAGS: mining machinery

Translation: This inventor's certificate introduces a self-propelled vibration drilling assembly mounted on a motor vehicle. The device includes a hoisting tower, winch, generator and vibrator. In order to cut down the number of additional operations and to speed them up, the tower is of the open type, Π-shaped and equipped with a transverse [illegible]. It also has a flexible element of constant length for [illegible] the vibrator during folding and raising the tower. A [illegible] description equipped with a carriage which is a [illegible] between the penetration equipment and the guides of [illegible] device may be used for impact sounding. A unit of this

Card 1/2

ACCESSION NR: AP5012323

description in which the winch is equipped with a normally open brake which has a spring contactor so that the unit may be used for cable percussion drilling.

ASSOCIATION: Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy ... PROYeKT" im. S. Ya. Zhuka (All-Union Institute of Preliminary ... Scientific Research GIDROPROYEKT)

SUBMITTED: ... ENCL: 00 SUB CODE: IE

... OTHER: 000 JPRS

Card 2/2

GNUSIN, N.F.; FOMIN, A.G.

Graphic method of calculation of the parameters of impedance of a double layer according to the frequency characteristic of its modulus. Izv. SO AN SSSR no.3: Ser. khim. nauk no.1: 120-123 '65. (MIRA 18:8)

1. Institut fiziko-khimicheskikh osnov pererabotki mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR, Novosibirsk.

GNUSIN, N.P.; PODDUBNYY, N.P.; RUDENKO, E.N.; FOMIN, A.G.

Current distribution on a cathode as a strip in a half-space of the electrolyte with a polarization curve expressed by the Tafel formula. Elektrokhimiia 1 no.4:452-459 Ap '65.
(MIRA 18:6)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR.

FOMIN, A.I., inzh.

New enterprises for the manufacture of insulating materials.
Stroi.truboprov. 6 no.7:4-5 Jl '61. (MIRA 14:8)
(Protective coatings)

BOGDASAROV, S.M.; PLOTNIKOVA, I.A.; FAYNBERG, E.S.; FOMIN, A.I.

Acoustic method for preparing emulsions. Avt.dor. 25 no.11:12-13 N '62. (MIRA 15:12)

(Road materials)

VOLYNKIN, Yu.M.; YAZDOVSKIY, V.I.; GENIN, A.M.; VASIL'YEV, P.V.; GYURDZHIAN, A.A.; GURovskiy, N.N.; GORBOV, F.D.; SERYAPIN, A.D.; BELAY, V.Ye.; BAYEVSKIY, R.M.; ALTUKHOV, G.V.; KOPANEV, V.I.; KAS'YAN, I.I.; YEGOROV, A.D.; SIL'VESTROV, M.M.; SIMPURA, S.F.; TERENT'YEV, V.G.; KRYLOV, Yu.V.; FOMIN, A.G.; USHAKOV, A.S.; DEGTYAREV, V.A.; VOLOVICH, V.G.; STEPANTSOV, V.I.; MYASHIKOV, V.I.; YAZDOVSKIY, V.I.; KASHIN, P.S., tekhn. red.

[First space flights of man; the scientific results of the medicobiological research conducted during the orbital flights of the spaceships "Vostok" and "Vostok-2"] Pervye kosmicheskie polety cheloveka; nauchny rezul'taty mediko-biologicheskikh issledovanii, provedennykh vo vremia orbital'nykh poletov korablei-sputnikov "Vostok" i "Vostok-2." Moskva, Izd-vo Akad. nauk SSSR, 1962. 202 p. (MIRA 15:11)
(SPACE MEDICINE) (SPACE FLIGHT TRAINING)

KOMLIK, A.I., inzhener; YEROKHIN, Ya.V., instruktor peredovykh metodov truda, (Moskva).

Development of the method for artificial seasoning of lumber in petrolatum. Stroi.pred.neft.prom. 1 no.10:24-26 D '56. (MLRA 10:2)

(Lumber--Drying) (Petrolatum)

FOMIN, A. I.

USSR/Chemistry - Botanical Insecticides Jan/Feb 52

"The Caucasian Chrysanthemum: A Valuable Botanical Insecticide," A. I. Fomin

"Med Prom SSSR" No 1, pp 17-20

In addn to anabasis, Dalmatian chrysanthemum (Pyrethrum cinerariaefolium Trev) and Caucasian chrysanthemum (Pyrethrum caseum MB and Pyrethrum carneum MB) are of the greatest value among botanical insecticides. While in the north, east, and central part of the USSR, Dalmatian chrysanthemum (I) cannot be grown, the Caucasian chrysanthemum

203T10

USSR/Chemistry - Botanical Insecticides Jan/Feb 52
(Contd)

(II) is sufficiently cold-resistant to be cultivated there. Efforts to that end should be made, although II is poorer in pyrethrins than I. Pyrethrum is still irreplaceable as a household insecticide, because DDT is too toxic.

203T10

ZIN'KOVSKIY, P.I. (g. Moskva); FOMIN, A.I. (g. Moskva).

Installing large-panel gypsum-slag concrete floors. Strei. prod. neft. prom. 2 no.3:22-23 Mr '57. (MLRA 10:4)
(Concrete construction)

SYCHEV, V.I., inzh., red.; FOMIN, A.I., inzh., red.; GOVSEYEV, V.Yu., inzh., red.; IFTINKA, G.A., red.izd-va; CHERKASSKAYA, F.T., tekhn. red.

[Construction specifications and regulations] Stroitel'nye normy i pravila. Moskva, Gosstroiizdat. Pt.1. Sec.V. ch.12.[Metals and metal products] Metally i metallicheskie izdeliia (SNiP I*V. 12-62). 1963. 38 p. (MIRA 16:10)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva. 2. Gosudarstvennyy komitet po delam stroitel'stva SSSR (for Sychev). 3. Mezhduvedomstvennaya komissiya po peresmotru stroitel'nykh norm i pravil pri Akademii stroitel'stva i arkhitektury SSSR (for Fomin). 4. Gosudarstvennyy institut po proyektirovaniyu, issledovaniyu i ispytaniyu stal'nykh konstruktsiy i mostov (for Govseyev).

(Metalwork)

RODSHTEYN, A.G., aknd.tekhn.nauk; FOMIN, A.I., inzh.

Using vibrorolled slabs for lining irrigation canals. Gidr. i mel. 15 no.10:26-29 O '63. (MIRA 17:2)

Forin, A. I. - "Planned hybridization in bird raising", Trudy Pushkinskoy nauch. -issled. laboratorii razvedeniya s.-kh. zhivotnykh, Issue 2, 1 49, p. 51-55.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 8, 1949).

FOMEN, A.I.,

30432

Opyty po promyshlyennomu skryeshchivaniyu v ptitsyevodstvye. Trudy Pushkinskoy nauch. isslyed, laboratorii razvyedyeniya s. kh-zhivotnykh, vyp. 3, 1949, s. 35-48
7, Okhota. Pushnoye zvyerovodstvo. Rybovodstvo. Rybolovstva. Morskiye promysly

SO: LETOPIS' No. 34

1. DAVYDOV, S. G. and FOMIN, A. I.

2. USSR (600)

4. Poultry

7. Introducing commercial cross-breeding into poultry raising. Dost.sel'khoz. No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

BOGOLYUBSKIY, S.I., kand.sel'skokhz.nauk; FOMIN, A.I., kand.sel'-skokhoz.nauk.; TOLMACH, Ye.F., aspirant; BUGAYEV, G.I.

Keeping young chickens in shrubbery and forest shelter-belts. Ptitsevodstvo 9 no.8:20-22 Ag '59. (MIRA 12:12)

1. Pushkinskaya nauchno-issledovatel'skaya laboratoriya razvedeniya sel'skokhozyaystvennykh zhivotnykh. 2. Starshiy zootekhnik ptitsesovkhoza "Novyy Oskol" (for Bugayev).
(Poultry)

FOMIN, A.I., kand.sel'skokhoz.nauk; GAL'PERN, I.L., starshiy nauchnyy sotrudnik

Increasing the viability and productivity in general-purpose hens by crisscrossing them with roosters of the same and a different breed. Ptitsevodstvo 9 no.9:32-35 S '59. (MIRA 12:12)

1. Pushkinskaya nauchno-issledovatel'skaya laboratoriya razvedeniya sel'skokhozyaystvennykh zhivotnykh.
(Poultry breeding)

TOMIN, Ye.D., kand. tekhn. nauk; FOMIN, A.I., inzh.; VINOGRADSKIY, V., red.

[Sapropel, its winning and use in agriculture] Sapropel', ego dobycha i ispol'zovanie v sel'skom khoziaistve IAroslavl', Verkhne-Volzhskoe knizhnoe izd-vo, 1964. 100 p.
(MIRA 18:9)

RUBINSHTEYN, A.Ya.; FOMIN, A.I.

Sapropel in agriculture. Zemledelie 27 no.2:61-67 F '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut udobreniy i agropochvovedeniya (for Rubinshteyn). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii (for Fomin).

BANACHEK, Ye.I.; SOKOLOV, V.A.; RUBINCHIK, S.M.; FOMIN, A.I.

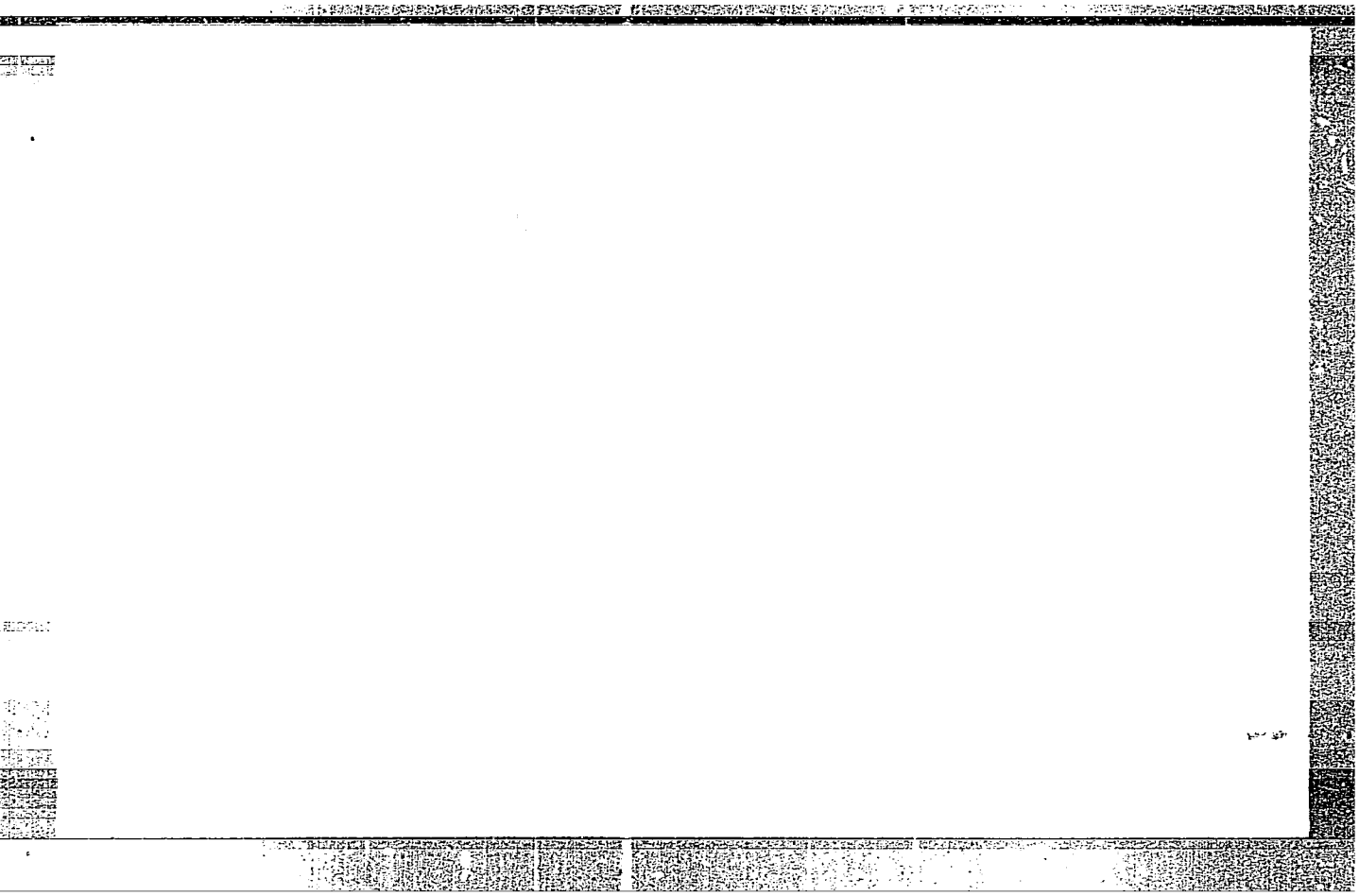
Measurement of corundum enthalpy at temperatures from 1290 to 1673°K. Izv. AN SSSR. Neorg. mat. 1 no.5:698-701 My '65. (MIRA 18:10)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR.

BOYKO, V.P., kand.tekhn.nauk; FOMIN, A.K., inzh.

Changes occuring in the quality of block frozen meat in case of long-term storage. Khol.tekh. 39 no.2:30-32 Mr-Ap '62. (MIRA 15:4)

(Meat, Frozen--Testing)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000413430002-4"

FOMINOV, A.M.

Motion of an artificial earth satellite in the nonspherical atmosphere. Biul.Inst.teor.astron. 9 no.3:185-203 '63. (MIRA 16:10)

BOL'SHAKOV, A.S.; FOMIN, A.K.

Accumulation of reducing carbohydrates and the pH value in pork muscle tissues subjected to autolysis in brine. Izv.vys.ucheb.zav.; pishch.tekh. no.1:30-32 '63. (MIRA 16:3)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti, kafedra tekhnologii myasa i myasoproduktov.
(Meat, Salt--Testing) (Pork)

Fomin, A. M. On a sufficient condition for the homeomorphism of a continuous differentiable mapping

FOMIN, A.N., inzh.; IL'INA, N.I., inzh.

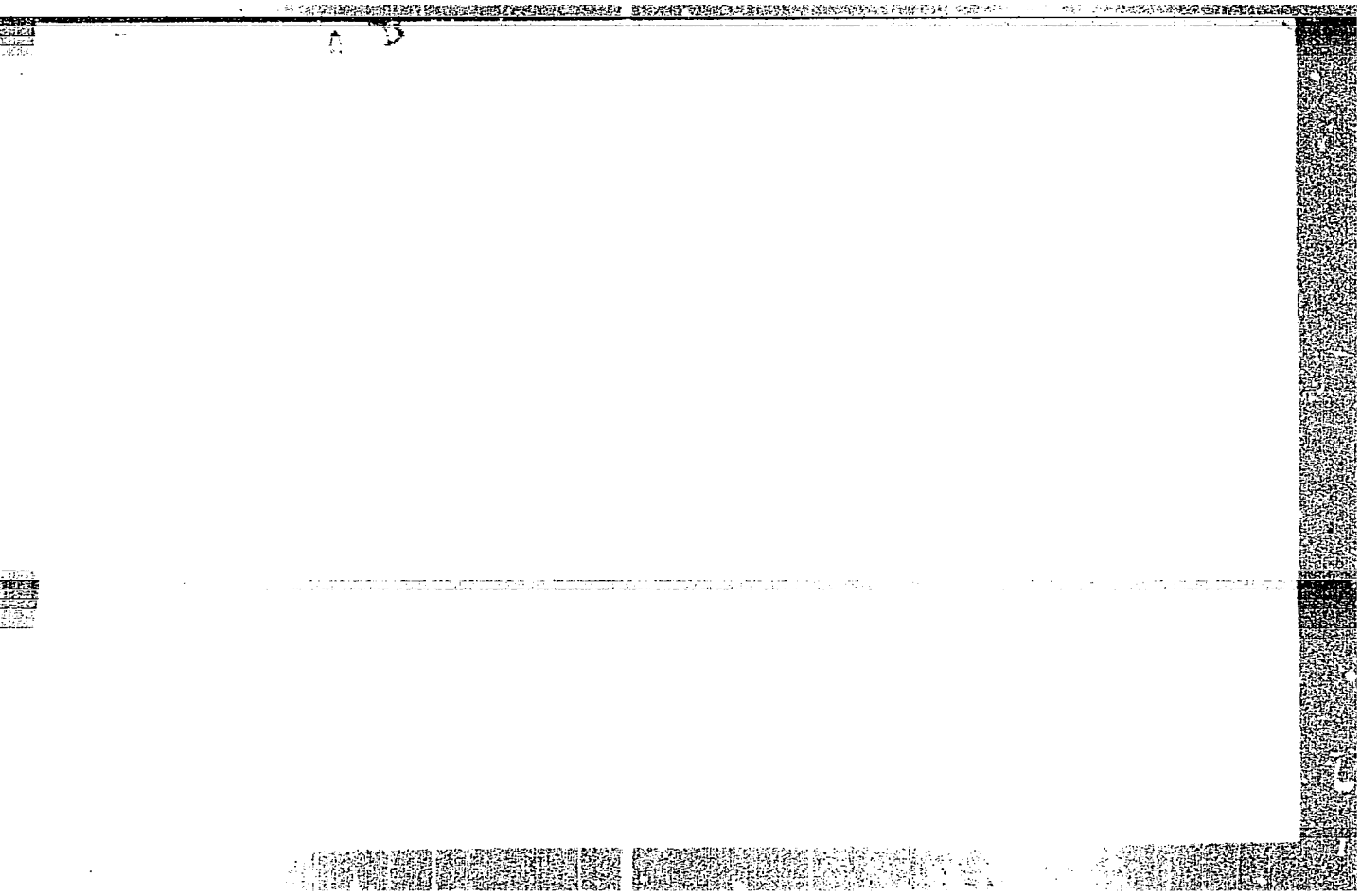
New book on vacuum apparatus. Khim.mashinostr. no.3:46 My-Je '64.
(MIRA 18:1)

FOMIN, A.P.; OVCHINNIKOV, F.M.; KOROVIN, M.A.; MAKURIN, N.D.; KOMAROVA, T.A.; SMIRNOVA, V.A.; ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn. red.

[Wages on state farms and other state agricultural erterprises; basic regulations and instructions on wages]Oplata truda v sovkhozakh i drugikh gosudarstvennykh predpriiatiiakh; sbornik osnovnykh polozhenii i ukazanii po oplate truda. Moskva, Izd-vo MSKh RSFSR, 1962. 483 p. (MIRA 16:2)

1. Russia (1917- R.S.F.S.R.)Upravleniye organizatsii truda i zarabotnoy platy. 2. Upravleniye organizatsii truda i zarabotnoy platy Ministerstva proizvodstva i zagotovk sel'skokhozyaystvennykh produktov RSFSR (for all except Zelenetskaya, Saytanidi).

(Agricultural wages)



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000413430002-4"

SYSKOV, K.I.; FOMIN, A.P.

Determination of the ease of breakage and abradability of coke.
Trudy MKHTI no.28:84-88 '59. (MIRA 13:11)
(Coke)

DONDE, M.V.; KAGASOV, V.M.; FOMIN, A.P.; LAZOVSKIY, I.M.

Extent and method of filling silos as factors affecting the accuracy of proportioning the components of coal charges. Koks i khim. no.2:16-18 '60. (MIRA 13:5)

1. Chelyabinskiy metallurgicheskiy zavod (for Donde, Kagasov, Fomin). 2. Vostochnyy uglekhimicheskiy institut (for Lazovskiy).
(Coal--Carbonization)

FOMIN, A.P.; SHEMERYANKIN, B.V.; CHEBOTAREV, V.P.; KOPELIOVICH, L.V.; KOSTYUNIN, I.K.

Experimental and industrial coking of coal charges with low grindability and different degrees of grinding of the components. Koks i khim. no.7:4-7 Jl '61. (MIRA 14:9)

1. Chelyabinskiy metallurgicheskiy zavod.
(Coke industry)

DONDE, M.V.; FOMIN, A.P.

Effect of the design of hammer mills and their operating conditions on the size reduction of coal charges. Koks i khim. no.4:12-16 '61. (MIRA 14:3)

1. Chelyabinskiy metallurgicheskiy zavod.
(Coal preparation) (Crushing machinery)

1.2300 2408 1573

28982

S/135/61/000/011/002/007
A006/A101

AUTHORS: Dmitriyev, Yu. V., Engineer, Kolpashnikov, A. I., Candidate of Technical Sciences, Fomin, A. P., Engineer

TITLE: Spot and roller welding of SAP (Sintered aluminum powder)

PERIODICAL: Svarochnoye proizvodstvo, no. 11, 1961, 7-10

TEXT: The most serious deficiency of sintered aluminum powders (SAP) is their poor weldability which prevents the assimilation of this valuable material in the industry. SAP-1 sheets, 1 - 1.5 mm thick containing 7.6 to 8.5% oxides, do not melt when exposed for a short time to a temperature as high as 800 to 1,000°C; the oxide layer on the surface remains intact and prevents fusion. Consequently, spot or seam welding under conventional conditions results in adhesion rather than in fusion. Some improvement can be achieved by increasing current and pressure and prolonging pulse duration, and also by inserting a copper or brass foil between electrodes and sheets. The welds obtained have satisfactory strength and a ring-shaped fusion zone. However the base metal around the weld is softened and frequent expulsions of overheated metal are caused. In 1960 the authors developed a technique for cladding SAP-1 sheets

Card 1/3

28982

S/135/61/000/011/002/007
A006/A101

Spot and roller welding of SAP ...

with aluminum, aluminum alloys, SAP type materials with low oxide content (up to 4%) and SAP-1 annealed at high temperatures. Cladding consisted in the preparation of blanks of basic and cladding material, mechanical cleaning of the contact surfaces, degreasing and rolling. Hot rolling was performed in several passes with 60 - 70% total reduction at 420 - 460°C. Subsequently the sheets were rolled at room temperature to a required thickness at 50 - 65% degree of cold deformation. During the cladding process the oxide film on the SAP blank is destroyed under the effect of high plastic deformations and is distributed between the base and cladding materials, thus creating conditions for their strong connection. Difficulties in producing a cast nugget in SAP sheets are eliminated, since this is not necessary when welding cladded material. This process, especially cladding with aluminum manganese alloys greatly improves the weldability of SAP-1 sheets, eliminates all the difficulties and produces reliable spot and seam welds with satisfactory reproducibility. With cladding it is also possible to weld SAP sheets to other aluminum alloy sheets. The weld strength at room temperatures and particularly at 350 and 500°C is much higher than can be expected from the cladding metal alone. Spot welds 6.1 to 6.2 mm in diameter on clad 1 mm thick SAP-1 sheets break under shearing loads of 313 to 357 kg at 20°C; 170 to 210 kg at 350°C, and 70 to 80 kg at 500°C. Tensile

Card 2/3

Spot and roller welding of SAP ...

strength of SAP-1 at these temperatures is 31 to 37, 15 to 16, and 6 to 8 kg/mm^2 and elongation, 4 to 8, 3 to 5, and 2.5 to 3% respectively. The high strength of clad SAP welds may possibly be explained by the diffusion of the strengthening phase of SAP to the cladding, during rolling or welding. There are 6 figures, 4 tables and 2 Soviet-bloc references.

ASSOCIATION: MATI (The Moscow Aviation Technological Institute)

Card 3/3

FOMIN, A.P.

Characteristics of the distribution of mineralization in the main ore fault of the Sadon deposits in connection with its form. Izv. vys. ucheb. zav.; geol. i razv. 6 no.12:83-87 D '63 (MIRA 18:2)

1. Shakhtinskiy filial Novocherkasskogo politekhnicheskogo instituta im. S. Ordzhonikidze.

L 13607-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) JD/HM

ACC NR: AP6002870 SOURCE CODE: UR/0286/65/000/024/0032/0032

INVENTOR: Danilina, O. B.; Fomin, A. P.; Natapov, S. L.; Romodina, L. I.; Yermolovich, L. F.

ORG: none

TITLE: Method of heat treatment of austenitic-ferritic steel welds. Class 18, No. 176945.

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 32

TOPIC TAGS: weld, heat treatment, weld heat treatment, steel, steel weld, austenitic ferritic steel

ABSTRACT: This Author Certificate introduces a method of annealing age-hardenable austenitic-ferritic steel welds strengthened by aging. To obtain welded joints with a ductility and strength equal to those of the parent metal, the weldments are annealed prior to aging at a temperature which ensures an optimal ferrite-to-austenite ratio (about 1:1) and water quenched or air cooled. [ND]

SUB CODE: 11/ SUBM DATE: 24Jul64/ ATD PRESS: 4187

UDC: 621.785.371:
:621.785.78

Card 1/1

ACC NR: AP6031838 (N) SOURCE CODE: UR/0129/66/000/007/0028/0033

AUTHOR: Petrovichev, N. P.; Barabanenkov, N. I.; Fomin, A. P.; Stroganov, G. B.; Gracheva, A. P.; Pozdnyakova, T. G.; Spektor, Ya. I.

ORG: none

TITLE: Utilizing the kinetic plasticity of stainless steel to reduce the warping of work parts during their heat treatment

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 7, 1966, 28-33

TOPIC TAGS: stainless steel, metal deformation, plasticity, phase transition, stress relaxation

ABSTRACT: During its phase transformations steel displays higher plasticity, and this effect my be exploited to reduce warping, particularly in intricate large-sized work parts of high--strength stainless steel (0.11-0.16% C, ≤ 1.0% Mn, 14-15.5% Cr, 4-5% Ni, 2.3-2.8% Mo, 0.06-0.1% N) whose structure, after a complete cycle of its heat treatment, consists of martensite, residual austenite and isolated carbides, and which tends to shrink 0.5% when quenched and expand 0.3% when subjected to subzero treatment. It is shown that the warping

Card 1/2 UDC: 620.191.38:669.15-194:669.24'26'23

ACC NR: AP6031838

of work parts made of steels of this kind can be reduced by means of: use of fastening attachments designed so that the shrinkage associated with phase transformations would proceed from thin to bulky sections of the work part, while expansion, by contrast, would proceed from bulky to thin sections; and oriented deformation designed to maximize residual deformation and hence also to maximize the degree of stress relaxation. Orig. art. has: 8 figures, 2 tables.

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

BOGACHKIN, V.A.; FOMIN, A.S.

Use of a diaphragm valve with pneumatic control in a Du-25 air distributor. Lit.proizv. no.9:23 S '62. (MIRA 15:11)
(Pneumatic control) (Foundries--Equipment and supplies)

KAGAN, Ya.M.; FOMIN, A.S.; ISANGULOV, K.I.; KAMALOV, R.R.

Investigating the effect of the magnetic field on paraffin deposition. Nefteprom. delo no.7:13-16 '63. (MIRA 17:2)

1. Neftepromyslovoye upravleniye "Aksakovneft'".

KAGAN, Ya.M.; FOMIN, A.S.

Investigating the paraffin deposition in lift pipes with a deep-well paraffin gauge. Nefteprom.delo no.11:22-23 '63. (MIRA 17:3)

1. Nefteпromyslovoye upravleniye "Aksakovneft'".

FOMIN, A.S., aspirant.

Distortions produced by the faceplate of a transmitting television tube in the image formed on the photocathode. Sbor.trud.Len elek.inst. sviazi no. 1:70-75 '56. (MLRA 10:1)
(Television--Picture tubes)

FOMIN, A.S.

Constructing small reflecting telescopes. Biul.VAGO no.18:57-66 '56. (MLRA 10:1)

(Telescope, Reflecting)

ODNOL'KO, V.V., dotsent, kand.tekhn.nauk; FOMIN, A.S., inzh.

New method for manufacturing facsimile and dot-type screens for color television picture tubes. Trudy LEIS no.2:142-147 '57. (MIRA 15:5)

(Television—Picture tubes) (Color television)

FOMIN, A.

Objective adjustment in miniature cameras. Sov.foto 17 no.5:52-53 My '57. (MIRA 10:7)

(Cameras)

FOMIN, A.S.

Solar oculars for Newton's reflecting telescopes and experience in photographing the sun. Biul.VAGO no.20:58-67 '57. (MLRA 10:8)
(Telescope, Reflecting) (Astronomical photography)

AUTHORS: Odnol'ko, V.V. and Fomin, A.S. SOV/106-58-5-8/13

TITLE: Some Studies in the Field of Electro-photography Applicable to Photo-telegraphy (O nekotorykh rabotakh v oblasti elektrofotografii primentel'no k fototelegrafii)

PERIODICAL: Elektrosvyaz', 1958, Nr 5, pp 48 - 54 (USSR).

ABSTRACT: The material in this article has already been given before a plenary session of the commission on scientific photography and cinematography of the Ac.Sc. USSR and the scientific council of the NIKFI on January 31, 1957 and also before a conference of professors and lecturers of the LEIS on March 26, 1957. The chair of television of LEIS initiated work on this problem in 1956. The red modification of selenium was chosen as the sensitive material since it adheres to a wide range of base materials and, in particular, survives repeated flexing of the latter. The backing plate, of aluminium or duraluminium, is polished and oxidised by heating in air to 350 - 400 °C. The selenium is deposited by vacuum evaporation at a pressure of 10^{-4} to 10^{-5} mm from a hexagonal array of crucibles (pitch circle 70 mm) spaced 30 mm from the layer (finished size - 50 x 57 mm). The variation in film thickness is about 1%. From the point of view of both sensitivity and image quality, the optimum thickness is 2 - 5 μ.

Card 1/3

Some Studies in the Field of Electro-photography Applicable to Photo-telegraphy

Figure 2 shows how the thickness may be measured, and variations observed, by measuring the transparency of a film deposited on a glass plate. The results have been checked by a weighing method. The largest area of deposit which has been produced is 210 x 310 mm, but the quality of deposit is unacceptable above 100 x 120 mm. Generally speaking, the sensitivity of the film is comparable with that of ordinary photographic paper while the resolving power is determined by the particle size of the powder used in the developing process. The production of the latent potential image is described as well as the dry and wet methods of revealing it. The wet method is preferred, the liquid being either aviation benzine B-70 or petrol and the powder either talc or ordinary soot. Talc is used for contrast against the selenium plate and soot is preferred when paper prints are taken. One method of transferring the image to paper requires the paper to be charged and direct transfer of the particles, some of which are of resin. The image is fixed by subsequently heating it to 100 °C. The method preferred by the authors uses the adhesive properties of old, unexposed,

Some Studies in the Field of Electro-photography Applicable to Photo-telegraphy

fixed photographic paper. Figure 3 gives an idea of the quality of the image. It is suggested that by using the sensitive surface, whose preparation is described above, on the receiving drum of a facsimile equipment, the whole process of receiving photo-telegrams could be automated. There are 3 figures and 4 references, 2 of which are Soviet and 2 English.

SUBMITTED: April 4, 1957

Card 3/3

SOV/29-58-12-14/23

AUTHOR: Fomin, A., Engineer

TITLE: The Window to the World of Stars (Okno v zvezdnyy mir)

PERIODICAL: Tekhnika molodezhi, 1958, Nr 12, pp 22-23 (USSR)

ABSTRACT: The introduction to the present article reports on the importance of amateur-made telescopes. Numerous astronomical discoveries were made by means of telescopes built by amateurs. Many years ago, the 15-year old Mitya Maksutov made a mirror for the largest telescope in Odessa out of the round glass of a reflector. For this he was appointed an ordinary member of the Russkoye astronomicheskoye obshchestvo (Russian Astronomic Society). His name is world-known today. The young teacher of radio engineering of Leningrad, Aleksandr Sergeyevich Fomin, author of the following article, rigs up telescopes as a hobby in his spare time. He advocates that amateur opticians and astronomers can make a contribution to science and engineering. It was also an amateur who had suggested to hang up the 5-meter reflector, the largest in the world. Soviet astronomers are dreaming of a 6-meter telescope. Fomin writes in his article that he has been occupied with the making of telescopes for several years. Astronomers use for their ob-

Card 1/3

servations various telescopes differing by the construction of object lenses. For an amateur it is the easiest way to make reflectors. For them it is easier to procure a suitable glass and other materials. The first reflector made by Fomin had a mirror of 130 mm diameter. Later he built several more telescopes the largest of which had an object lens of 254 mm diameter. Beside the telescopes for general use he built some special apparatus: a camera to photograph the sun's corona during a solar eclipse, a telescope-photoheliograph to photograph the sun's surface, a refractor to observe artificial earth satellites. At present, Fomin is working at his largest instrument - a reflector with a mirror of 310 mm diameter and a phototelescope (camera by Shmidt) with an aperture of 200 mm coupled with the reflector. Some of the apparatus made by Fomin are illustrated. The telescope with a mirror of 123 mm diameter was originally destined for photographing the sun's surface only. But it also proved suitable for other photographs of various kinds. Fomin succeeded in photographing the moon, Jupiter, and Saturn with this apparatus. Besides, it may be used as a telephoto lens of great focal distance for common photographic cameras. At a moderate length (about 50 cm to-

gether with the camera "Kiyev") the telephoto lens had an equivalent focal distance of 980 mm. For astronomical photographs, the focal distance increases up to 2080 mm. If an amateur wishes so, he may make a relatively large telescope suited to undertake serious scientific observations. There are 4 figures.